



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,884	11/05/2003	David L. Adler	10011.001310 (P0981)	6709
31894	7590	05/26/2004	EXAMINER	
OKAMOTO & BENEDICTO, LLP P.O. BOX 641330 SAN JOSE, CA 95164			WELLS, NIKITA	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/701,884

Applicant(s)

ADLER, DAVID L.

Examiner

Nikita Wells

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 051904
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-3, 17, and 18, are rejected under 35 U.S.C. 102(e) as being anticipated by N. Dotan (6,407,373 B1)

With respect to claims 1-3, N. Dotan discloses (Abstract; Figs. 1; Col. 2, lines 57-67; Col. 3, lines 4-22 and lines 32-46; Col. 4, lines 26-65) an apparatus for inspection and review of a substrate (124), the apparatus (100) comprising: a first subsystem (120) for inspecting said substrate (124), a processor (158) for identifying regions of said substrate (124) for review, and a second subsystem (116) for reviewing at least a portion of the said regions.

With respect to claims 17 and 18, N. Dotan discloses (Fig. 1; Col. 4, lines 26-65) a method for inspection and review of a substrate, the method comprising: inspecting said substrate in an apparatus to generate inspection data, processing the inspection data to identify regions of said substrate for review, and reviewing at least a portion of said regions in the apparatus (Col. 7, lines 25-36; and Col.9, lines 26-53).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over N. Dotan (6,407,373 B1) in view of Veneklasen et al. (6,610,980 B2).

With respect to claims 4-8, although N. Dotan discloses an apparatus for inspection and review of a substrate, N. Dotan fails to disclose that the first and second subsystems each comprises an electron beam microscope, that the subsystems commonly share one or more electron optical elements, or that the first subsystem and second subsystem commonly share substantially all electron optical elements.

However, Veneklasen et al. disclose (Abstract; Fig. 4; claim 1; Col. 1, lines 11-20; and Col. 6, line 61 to Col. 7, line 10) an apparatus for the inspection of semiconductor wafers (129) where the first (121) and second (125) subsystems each comprises an electron beam microscope, that the subsystem share one or more electron optical elements in common, or that the first subsystem (121) and second subsystem (125) commonly share substantially all electron optical elements (see Fig. 4).

With respect to claims 10-15, N. Dotan fails to disclose that in the apparatus for inspection and review the first or second subsystem comprises a low energy electron microscope (LEEM) or wherein both the first and second subsystems each comprise a LEEM, or that the subsystems commonly share one or more electron optical elements, or that the first subsystem and second subsystem commonly share substantially all electron optical elements. However, Veneklasen et al. disclose (Abstract; Fig. 4; claim 1; Col. 1, lines 11-20; and Col. 6, line 61 to

Col. 7, line 10) that in the apparatus for inspection and review the first or second subsystem comprises an LEEM or wherein both the first and second subsystems each comprise a LEEM, or that the subsystems commonly share one or more electron optical elements or share substantially all the electron optical elements.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize and substitute the apparatus for analysis of materials of Veneklasen et al. into the apparatus for inspection and review of a substrate of N. Dotan in order to obtain a simpler, faster, more efficient, and more reliable means for inspecting and reviewing the presence of defects on a semiconductor wafer.

With respect to claims 9, 16, 19, and 20, N. Dotan fails to disclose that the apparatus for inspection and review, wherein said first condition and said second condition differ from one another with regard to at least one parameter selected from the group including: true perspective, apparent perspective, magnification; and contrast. With respect to the double beam apparatus, Veneklasen et al. disclose (Col. 4, line 57 to Col. 5, line 7) that a proper balance between the current densities of the two beams must be maintained in order to obtain proper contrast. Veneklasen et al. also disclose (Col. 7, lines 18-21) that one or more additional projector lenses can provide further electron optical magnification to the image.

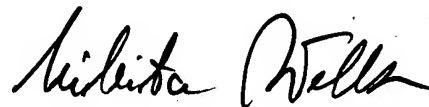
### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nara et al. (6,388,747 B2) disclose an apparatus for inspection and review of a fine circuit pattern on a substrate by using an image formed by irradiating white light, a laser beam, or a charged particle beam.

Art Unit: 2881

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikita Wells whose telephone number is (571) 272-2484. The examiner can normally be reached on 8:30 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nikita Wells, Primary Examiner,

Art Unit 2881

May 19, 2004